

Southern Pines. Their larvæ are known as "Sawyers." After carefully examining great numbers of specimens in the spring, Dr. Burnett had not found a single male, and all the females were ready to deposit their eggs. There would seem, therefore, good reason to believe that the male dies in the autumn, leaving the female to continue the species, like the female Humble Bee.

Mr. Stimpson read a paper describing several new Ascidians from the coast of the United States.

ASCIDIA.

A. CALLOSA. Body depressed, usually oval or oblong, but varying in shape. Test, when free from the parasitic growth which usually covers it, of a light sepia, or pale bluish color, translucent, although thick and fleshy. Its thickness varies in different parts of the body from the character of the surface, which is very rugose, rising into irregular prominences and ridges. Apertures dark purple or reddish, situated on prominent warts; the seven-rayed branchial, which is largest, being terminal, and the six-rayed anal removed from it by a distance less than one half the length of the body. The branchial tube within has seven strong longitudinal ridges. Branchial sac finely reticulated. The inner tunic, where it covers the abdomen, is marked with crowded golden specks. Length often three inches; breadth two inches. This species is abundant in Passamaquoddy Bay, from low-water mark to thirty feet. It is usually found adhering broadly by the left side to the under surface of large stones.

A. TENELLA. Body oblong, somewhat elongated, flaccid, adhering by the base. Test or outer tunic soft, gelatinous, slightly wrinkled, transparent, showing beneath the folds of the branchial sac. Inner tunic pale yellowish. Orifices terminal, approximated, on short tubes, the branchial largest, with seven or eight lobes and the same number of red ocelli. The anal has six lobes and six red ocelli, which are much brighter colored than those of the branchial orifice. Length about one inch, breadth one third of an inch.

This species was dredged at the depth of thirty-five fathoms on a shelly bottom near Great Duck Island, Grand Manan. It

adheres to fragments of shells and often to other Ascidians. It resembles a species which I received from Europe under the name of *A. mentula*, but does not agree with the descriptions of that species.

A. GEOMETRICA. Body adhering by a broad base, depressed, oval. Test thin, smooth, transparent, very pale greenish, with an almost peripheric, narrow, dark-colored line or ridge, like a fibre, from which other lines of the same character proceed, dividing the surface into ten irregular polygons, two of which, separated from each other by a third, contain the apertures. These two polygons are wheel-like, being radiated with six spokes from a centre, which is the sessile aperture. Proceeding from, and perpendicular to each of the dark lines, are bright straw-colored fibres, extending toward the centres of the polygons but not reaching them. Length, half an inch.

Dredged in forty fathoms on a muddy bottom off Long Island, Gr. Manan. One specimen only was found, which was adhering to a dead valve of *Pecten Magellanicus*.

MOLGULA.

M. SORDIDA. Body small, globular, usually covered with mud or sand; color, when clean, pale white. Test thick and smooth, except around the apertures, where it is wrinkled transversely, and provided with as many longitudinal ridges as there are rays in the aperture. Tubes prominent, near together. Branchial aperture provided with six tentacular filaments, projecting inwards, corresponding with its six rays. The anal tube is longest, and its four ridges, corresponding with the four rays of its aperture, are very prominent. Branchial sac with fourteen plications. Diameter half an inch.

This species is found at low water in Charleston Harbor, S. C. among the sediment and parasitic corallines and plants which incrust the rocks of the breakwaters.

M. PRODUCTA. This species is usually perfectly globular, while the apertures are on tubes often equal in length to the diameter of the body, which originate close together and diverge. The test is rather thin, pellucid, usually of a pale rose tint, and covered, the tubes included, with a thin coating of sand. The

branchial aperture is rounded, with six short cirrhi within ; the anal is square. Diameter half an inch.

It occurred on a sandy bottom, in six fathoms in Boston Bay ; and also at low water on Bird Island. The tadpole-like young were ejected in August, and were of a bright vermilion color, which continued for a long time after their final detachment.

M. ARENATA. Body somewhat compressed laterally. Test thin, uniformly covered with coarse sand, which adheres very strongly. Apertures small, on very short tubes, far removed from each other. Length three fourths of an inch.

It inhabits the region of Nantucket and Martha's Vineyard.

GLANDULA, n. g.

Body globular, always free, and thickly coated with sand, mud, or other extraneous substances. Apertures on tubes, the branchial with four lobes, the anal square. Branchial sac with few, distant plications.

G. FIBROSA. Test thin, but very tough and leathery, covered with numerous fibres resembling cotton, which serve as a framework or attachment for the hard, thick coating of mud, in which this species is always found incased. Thus a ball is formed of about one inch in diameter, twice that of the body alone. The tubes extend only to the surface of the ball. It is an exceedingly tough, hard species, and when divested of its covering will bear the weight of several pounds without bursting.

Dredged in thirty-five fathoms on a muddy bottom, in the Hake Bay, off Gr. Manan.

G. MOLLIS. Body globular, but often considerably flattened, soft, and flexible. Test very thin, transparent, and thickly covered with loose sand. Diameter half an inch, usually less.

Dredged abundantly on a sandy bottom in ten fathoms, off Cheney's Head, Gr. Manan.

CYNTHIA.

C. VITTATA. Body oblong, somewhat arcuated, often laterally compressed. Test thick, cartilaginous, opaque, white, or pale yellowish, with large longitudinal wrinkles or furrows. Orifices square, on short, conical tubes, which have a pair of dark red,

or purple lines descending on each of the four sides, and becoming paler and finally lost on the body. Branchial sac with about fourteen folds. Diameter two inches.

It is usually covered with corallines, and in its tunic *Mytili* are often imbedded. It was found in great numbers on Oak Island Beach, near Smithville, N. C. by Lieut. Kurtz, probably thrown up from deep water. It occurs in groups of several individuals, young and old, attached to each other.

C. PARTITA. Body oblong or subglobular, attached by the base. Test hard, strong, coriaceous, rugose, wrinkled in various directions, and of a dark purplish-brown color. Apertures square, on prominent eminences, opening widely, the branchial being largest. The tubes are very beautifully marked exteriorly by alternating triangular areas of white and purple, arranged as in the shell of a *Balanus*; the white ones having their bases, and the purple ones their apices, on the margin of the aperture. In one instance parallel stripes took the place of triangles. Diameter one inch.

It is occasionally dredged in Boston Harbor, west of Governor's Island, in four fathoms, among stones and shells.

C. SUBCÆRULEA. Body firm, hemispheric, adhering by the base. Test thin but tough, smooth, translucent, with a pale bluish tinge. Orifices small, sessile, not far removed from each other. Diameter one fourth of an inch.

This species I found attached to corallines thrown ashore on Oak Island Beach, N. C.

C. GUTTA. Body flat and disk-like, oval, adhering by a very broad base. Test strong, thin, smooth, opaque, deep red, expanded upon the surface of attachment so as to form a margin. Orifices small, square, slightly prominent. Diameter half an inch.

This species is very common in Boston Harbor, adhering to dead valves of *Mytilus modiolus*, on the shelly bottom between Bird Island and South Boston Flats, where the depth is from three to five fathoms. It resembles very much a drop of blood.

PERA, n. g.

Body pyriform, adhering by a very small base. Test gelatinous. Orifices sessile; the branchial six-lobed, the anal four-lobed. Branchial sac plicated.

P. PELLUCIDA. Body pear-shaped, the tunic at base often continued into a short stem. Test rather thin, hyaline, covered with small conical eminences or papillæ, especially about the orifices, which are very small, distant from each other, and difficult to distinguish. Branchial sac with ten folds. Length one inch.

Found adhering to bunches of *Sertularia polyzonias*, taken on St. George's Bank in thirty fathoms.

BOLTENIA.

B. RUBRA. Body arcuated, slightly compressed laterally, and tapering rather abruptly to the stem, which is slender, very hard and granulated. Test very rugose, especially on the dorsal surface, and of a deep red color. Anal aperture nearly sessile; branchial on a short tube which curves toward the stem. Total length one foot; length of the body one and three fourths inches; breadth seven eighths of an inch.

This species lives attached to rocks in from two to fourteen fathoms. I have found it in Massachusetts Bay, from Boston to Cape Ann; and also at Grand Manan, at the mouth of the Bay of Fundy.

Mr. Stimpson also remarked, that he was engaged upon a Monograph of the Tunicata of our coast, in which detailed descriptions of the above genera and species would be given, as well as of many others not here mentioned.

Dr. C. T. Jackson gave a detailed account of the process of Etherization as performed on a Puma belonging to Mr. Alger, for the purpose of performing the operation of cutting off its claws.